CLAIMS

What is claimed is:

1. A vending system for verifying the delivery of a ordered product comprising of:

an ordering system for receiving a customer order of a product;

a product delivery system for sending the product located in a first product storage position through a delivery path to a second product receiving position;

a monitoring system located along the delivery path for detecting when the product passes through the delivery path from the first position to the second position; and

a reporting circuitry electronically coupled to the monitoring system wherein the reporting circuitry reports the result of the customer's order.

2. The vending system of claim 1 wherein the monitoring system optically scans the delivery path for the product transition.

3. The vending system of claim 1 wherein the monitoring system further comprises:

one or more light emitting source; and

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one or more light detection source wherein the light detection source detects a change in a light from the light-emitting source.

4. The vending system in claim 3 wherein the monitoring system comprises of:

an optical circuitry for optically monitoring the delivery path between the first product storage position and the second product receiving position; and

a logic circuit electronically coupled to the optical circuitry for determining whether the product passed through the delivery path, the determination occurs by receiving a first logic result when light is detected, and a second logic result when light is not detected.

5. The vending system in claim 3 wherein the light is an infrared light.

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6. The vending system in claim 3 further comprising of an optical detection aperture wherein the aperture is used to reduce the detectors range of detection to less than the detector's full three dimensional range.

7. The vending system in claim 3 wherein the light emitting source is aligned approximately across from the light detecting source, wherein the delivery path lies in between the emitting source and the detecting source.

8. The vending system in claim 3 wherein the light emitting source is aligned such that the spacing between each of the one or more detecting sources on the detecting arm accounts for the smallest product that transitions through the delivery path.

9. The vending system in claim 3 wherein at least two light emitting sources and at least two detecting sources are used, the system further comprising:

a controller that sends a signal to a first one of the emitters activating and then deactivating the first emitter;

a set first time period wherein the signal is cycled by the controller to the next emitter; and

a second time period wherein the emitter cycle is complete wherein the second time period is determined by a shortest delivery path travel time of a product.

10. The vending system in claim 3 wherein the emitter's power is adjusted to reduce ambient light effects.

11. The vending system in claim 3 where in the emitter's power is adjusted to reduce reflected light effects.

12. The vending system in claim 4 wherein the logic circuitry further comprises:

an input from the delivery system;

an input from the optical circuit; and

an output from a comparison circuit, whereby the output comprises of a resulting comparison between the input from the delivery system and the input from the optical circuit, wherein the resulting comparison determines if a delivery attempt by the delivery system resulted in an actual delivery of the product to the receiving position.

13. The vending system in claim 1, wherein the reporting circuitry further comprises of a data storage device for storing information concerning the customer's order.

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14. The system in claim 1, wherein the reporting circuitry further comprises a logic circuit for determining whether to offer another vend attempt to the customer based upon a comparison between the report and a predetermined rule.

15. The vending system in claim 13 wherein the reporting circuitry further comprises a display device wherein an operator can retrieve the information.

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16. A vending method for determining whether a product is delivered, the method comprising the steps of:

sending a delivery signal to a product delivery system based on a customer-ordering event;

monitoring a delivery path that the ordered product travels to reach a product receiving location; and

determining if the product was delivered to the receiving location.

17. The method of claim 16 wherein the monitoring further comprises the steps of:

transmitting a signal from one or more signal emitting devices;

monitoring to receive the signal at one or more signal detection devices; and

determining whether an interruption of the signal occurred.

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18. The method of claim 17 wherein the step of transmitting the signal further comprises the steps of:

activating the one or more signal emitting device in a sequential series; and

activating the corresponding one or more signal detection device in the sequential series corresponding to the activated corresponding emitter.

19. The method of claim 16 wherein the step of monitoring comprises of using an infrared signal.

20. The method of claim 16 further comprising the steps of:

attempting a redelivery of the product at least a one or more predetermined number of attempts, wherein a first attempt to deliver of the product failed; and

providing the customer a one or more alternative choice if the redelivery attempt of the product failed after the predetermined number of attempts.

21. The method of claim 20 wherein the step of providing the customer with an alternative choice further comprises the steps of:

providing the customer alternatively with a first choice to request a second product; and

providing the customer alternatively with a second choice to request a refund of the original customer order.

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22. The method of claim 16 wherein the step of sending a delivery signal comprising the step of activating the monitoring system to monitor the delivery path.

23. The method of claim 22 further comprising the step of deactivating the monitoring system's monitoring at the conclusion of the customer order event.

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24. A vending machine method to deliver a product, the method comprising the steps of:

determining that a product ordered by a customer was not delivered;

counting the number of attempts that the product by the customer was ordered and not delivered; and

taking an action based on the number of attempts that the product was ordered by the customer but not delivered.

25. The method of claim 24, wherein the taking action step further comprises the step of preventing other orders from occurring for the product for a predetermined time when the number of attempts reaches a predetermined number.

26. The method of claim 24, wherein the taking action step further comprises the step of offering a second product alternative, only.

27. The method of claim 25 further comprising the step of re-enabling the vending machine to accept other orders after the predetermined time has lapsed.

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28. The method of claim 25 wherein the determining step further comprises:

sending a delivery signal to a product delivery system based on a customer-ordering event;

monitoring a delivery path that the ordered product travels to reach a product receiving location; and

determining if the product was delivered to the receiving location.

29. The method of claim 28 wherein the step of monitoring further comprises the step of optically monitoring using an infrared signal.

30. An apparatus for monitoring a vending machine delivery area, the apparatus comprising of:

an ordering system;

a delivery path for a product ordered by a customer from the ordering system;

a signal emitting device located along the delivery path and emitting a signal;

a signal detecting device located across the delivery path from the signal emitting device; and

a logic circuit connected to the signal-detecting device, such that the logic circuit determines when a product is delivered.

31. The apparatus in claim 30 further comprising:

a memory device wherein the logic circuit reports to the memory device whether a product is delivered.

32. The apparatus in claim 30 further wherein the logic circuit further comprises a reporting circuit that reports to an ordering system whether a product is delivered.

33. The apparatus in claim 30 further comprising:

a unsuccessful product vend attempt by a customer;

a unsuccessful reorder vend attempt of the product by the customer; and

a prevention order from the logic circuit based on the second or more unsuccessful vend attempt by the customer.

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